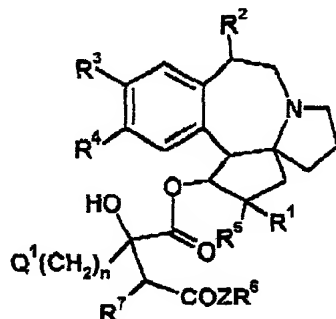


# **THERAPEUTICAL METHOD INVOLVING SUBCUTANEOUS ADMINISTRATION OF DRUGS CONTAINING CEPHALOTAXINE DERIVATIVES**

## **ABSTRACT**

A new method of therapy using the subcutaneous mode of administration of formulations based upon harringtonines including their salts and tautomeric forms having the formula



where :

$R^1$  is H, OH, OMe, O-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>30</sub>)-alkenyl, O-(C<sub>3</sub>-C<sub>30</sub>)-cycloalkyl or null and

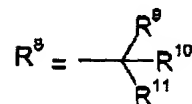
$R^2$  is H or OH, or  $R^1$ ,  $R^2$  form together -O-,

$R^3 = R^4 =$  OMe or  $R^3$  and  $R^4$  form together -OCH<sub>2</sub>O-,

$n$  is 0 to 8,

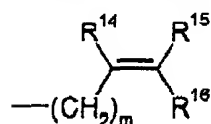
$R^5$  is H, OH, OMe, O-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-aryl-(C<sub>1</sub>-C<sub>30</sub>)-alkyl, O-(C<sub>2</sub>-C<sub>30</sub>)-alkenyl, O-(C<sub>3</sub>-C<sub>30</sub>)-cycloalkyl or O-aryl,

$Z =$  O, S, or NH, and



or  $Z$ -  $R^8$  is  $NR^{12}R^{13}$ ,  $R^{12}$  and  $R^{13}$  representing respectively  $R^9$  and  $R^{10}$ ,

$R^9, R^{10}, R^{11}$  are independently H,  $C_1-C_{30}$  alkyl,  $C_3-C_{30}$  cycloalkyl, aryl, aryl- $(C_1-C_{30})$ -alkyl,  $C_2-C_{30}$  alkenyl,  $C_2-C_{30}$  alkynyl,  $C_1-C_{30}$  trihalogenoalkyl,  $C_1-C_{30}$  alkylamino- $(C_1-C_{30})$ alkyl,  $C_1-C_{30}$  dialkylamino- $(C_1-C_{30})$ -alkyl, or amino- $(C_1-C_{30})$ -alkyl, or



where  $R^{14}, R^{15}, R^{16}$  are independently H, halogen,  $C_1-C_{30}$  alkyl,  $C_3-C_{30}$  cycloalkyl, aryl, aryl- $(C_1-C_{30})$ -alkyl,  $C_2-C_{30}$  alkenyl or  $C_2-C_{30}$  alkynyl,  $C_1-C_{30}$  trihalogenoalkyl, m is 0 to 4, each of these groups including or not heteroatom(s)

or their combination with another antitumor agent or a mixture of antitumor agents useful for the treatment of a disease in humans or animals, particularly cancers, leukemias, lymphomas, parasite diseases or chemotherapeutic resistance to other agents, in using a formulation specifically adapted for subcutaneous administration.